In the Claims:

Please amend claims 1, 3, 5, 7, 12-15, 17, 19, 21 and 26 as follows, and cancel claims 27 and 28. Claims 2, 4, 6, 8-11, 16, 18, 20 and 22-25 are unchanged.

1. (Currently amended) A network service management server for managing network services for an internal network ~~operated by a multi-system operator, the internal network being formed with network entities~~, the network service management server comprising:

a registration driver provided at a selected location of the internal network, the internal network being operated by a multi-system operator and formed with network entities, the registration driver for registering a client connecting to one of the network entities;

an address assignment handler provided at the selected location of the internal network for assigning to the client an address associated with the one of the network entities to which the client is connected; and

an information handler for handling information relating to network services for the client based on the assigned address.

2. (Original) The network service management server as claimed in claim 1, wherein:

the registration driver registers the client with the assigned Internet Protocol (IP) address or Media Access Control (MAC) address.

3. (Currently amended) The network service management server as claimed in claim 1, wherein:

the registration driver registers the client in association with information of one or more network elements through which the client is routed; and

the address assignment handler assigns to the client an IP address that is associated with the information of the one or more network elements through which the client is routed.

4. (Original) The network service management server as claimed in claim 1 further comprising:

a network entity database for storing location information of a network entity in association with a MAC address of the network entity; and

a location resolution handler for obtaining a network entity MAC address from network traffic sent from or to a client connected to the network entity, and resolving the location of the client based on the location information of the network entity using the client IP address or MAC address.

5. (Currently amended) The network service management server as claimed in claim 4 wherein:

the registration driver registers the client in association with a client IP address or client MAC address, and

the location resolution handler is a Simple Network Management Protocol (SNMP) daemon that resolves the location of the client based on the client IP address assigned by the address assignment handler.

6. (Original) The network service management server as claimed in claim 4 wherein:

the internal network reflects one or more network entities which are routing devices; and

the address assignment handler assigns to the client an address that includes information of one or more routing devices that the client traffic is routed.

7. (Currently amended) The network service management server as claimed in claim 6 wherein:

the internal network includes one or more Dynamic Host Configuration Protocol (DHCP) relay modules; and

the address assignment handler assigns to the client an address that reflects information of one or more DHCP relay modules through which the client traffic passes.

8. (Original) The network service management server as claimed in claim 4 wherein:

the internal network includes network entities which are bridging devices; and

the address assignment handler assigns to the client an address that reflects information of bridged network entities through which the client traffic passes.

9. (Original) The network service management server as claimed in claim 4 wherein:

the information handler handles billing information for a client based on the location of the client as resolved by the location resolution handler.

10. (Original) The network service management server as claimed in claim 1 wherein:

the client has a fixed address that is used for a foreign network; and

the network service management server further comprises an address translator for translating the fixed address to or from the assigned address.

11. (Original) The network service management server as claimed in claim 4 further comprising:

a network entity provisioning handler for provisioning a network entity; and

a network entity information handler for storing the provisioning information in the network entity database.

12. (Currently amended) A network service management server for managing Internet services for a cable modem network ~~having multiple cable modems and Cable Modem Termination Systems (CMTSs) for communicating with connected cable modems~~, the network service management server comprising:

a registration driver provided at a selected location of the cable modem network having multiple cable modems and Cable Modem Termination Systems (CMTSs) for communicating with connected cable modems, the registration driver for registering a client connecting to one of the cable modems;

an address assignment handler provided at the selected location of the cable modem network for assigning to the client a client address associated with the one of the cable modems to which the client is connected; and

an information handler for handling information relating to Internet services for the client based on the assigned client address.

13. (Currently amended) The network service management server as claimed in claim 12, wherein:

the registration driver registers the client based on the assigned IP address or MAC address.

14. (Currently amended) The network service management server as claimed in claim 12, wherein:

the registration driver registers the client in association with information of a CMTS to which the client is connected; and

the address assignment handler assigns to the client an IP address that is associated with the information of the CMTS to which the client is connected.

15. (Currently amended) A method of managing network services for an internal network ~~operated by a multi-system operator, the internal network being formed with network entities~~, the method comprising the steps of:

registering, at a selected location of the internal network which is operated by a multi-system operator and formed with network entities, a client connecting to one of the network entities;

assigning to the client an address associated with the one of the network entities to which the client is connected; and

handling information relating to network services for the client based on the assigned address.

16. (Original) The method as claimed in claim 15, wherein:

the registering step registers the client based on the assigned Internet Protocol (IP) address or Media Access Control (MAC) address.

17. (Currently amended) The method as claimed in claim 15, wherein:

the registering step registers the client in association with information of one or more network elements through which the client is routed; and

the assigning step assigns to the client an IP address that is associated with the information of the one or more network elements through which the client is routed.

18. (Original) The method as claimed in claim 15 further comprising the steps of:

storing location information of a network entity in association with a assigned IP address of the network entity;

obtaining a network entity MAC address from network traffic sent from or to a client connected to the network entity; and

resolving the location of the client based on the location information of the network entity using the client IP address or MAC address.

19. (Currently amended) The method as claimed in claim 18, wherein:

the registering step registers the client in association with a client IP address or client MAC address, and

the resolving step resolves the location of the client by a SNMP daemon based on the client IP address assigned by the assigning step.

20. (Original) The method as claimed in claim 18 wherein:

the assigning step assigns to the client an address that reflects information of the device through which the client is routed when one or more network entities are routing devices.

21. (Currently amended) The method as claimed in claim 20 wherein:

the assigning step assigns to the client an address that reflects information of one or more DHCP relay modules through which the client traffic passes when the internal network includes one or more DHCP relay modules.

22. (Original) The method as claimed in claim 18 wherein:

the assigning step assigns to the client an address that reflects information of bridged network entities through which the client traffic passes when one or more network entities are bridging devices.

23. (Original) The method as claimed in claim 18 wherein:

the information handling step handles billing information for a client based on the location of the client as resolved by the location resolution handler.

24. (Original) The method as claimed in claim 15 wherein:

for a client having a fixed address that is used for a foreign network, translating the fixed address to or from the assigned address.

25. (Original) The method as claimed in claim 15 further comprising the steps of:

provisioning a network entity; and

storing the provisioning information in a network entity database.

26. (Currently amended) A computer readable medium storing the instructions or statements for use in the execution in a computer of a method of managing network services for an internal network ~~operated by a multi-system operator, the internal network being formed with network entities~~, the method comprising the steps of:

registering, at a selected location of the internal network which is operated by a multi-system operator and formed with network entities, a client connecting to one of the network entities;

assigning to the client an address associated with the one of the network entities to which the client is connected; and

handling information relating to network services for the client based on the assigned address.

27-28 (Cancelled)